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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/339,430	06/24/1999	RICHARD A. JONES	373-101	2596

7590 10/08/2003
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EXAMINER

YE, LIN

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 10/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/339,430

Applicant(s)

JONES, RICHARD A.

Examiner

Lin Ye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/28/03 have been fully considered but they are not persuasive as to claims 1-16.

Relative to claim 1, the applicant argues that the examiner has incorrectly interpreted the Ackles's head (32) to be equivalent to a camera head in Applicant's remote camera positioner. The examiner disagrees. The Ackles reference clearly states the vision system can be mounted proximate head 32 and incorporates a video camera (col. 6, lines 30-60). Also that Ackles reference shows a claw in Figure 1 only as an example of "head 32". Other example includes the camera as shown in **Figure 19**, a head (154 to be equivalent to head 32 in Figure 1) is camera head (See Col. 10, lines 60-62). It is clear that the head 32 can be camera head.

The applicant argues Ackles'rams 16 are axially extensible and absolutely not "**angularly rotatable**" for angularly positioning a camera head. However, This feature ("**angularly rotatable**") is not recited in the claims instead of "angular displacement". The applicant should also be noted that in Figure 19, the motors (158 and 160) are angularly rotatable.

The applicant also argues that examiner has not state a proper obviousness rejection for combining Kraft reference to Ackles reference. The examiner disagrees. The Ackles reference discloses angularly rotatable shaft (motor 158 and 160) in Figure 19, but does not have a detail to show an inner housing having a rotatable cylindrical main shaft. The examiner has clearly state the motivation for having a rotatable cylindrical main shaft in the

inner housing so that can significantly reduce the water resistance effect under the deep-sea and make the positional more strong and rotatable in any degree.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ackles U.S. Patent 6,024,145.

Referring to claim 1, the Ackles reference discloses in Figures 1-6, 15, 19 and 25, apparatus for remotely controlling the position of a camera head (head 32 may take form of many interchangeable attachments, for example a vision system incorporates a video camera 48 be mounted on head 32 in Figure 1, See Col. 6, lines 30-60 and head 154 in Figure 19), said apparatus comprising, in combination: a) at least one hydraulically-actuated positioner (boom sections 12a-d) having an output shaft (hydraulic rams 16 in Figure 1, motors 158 and 160) (See Col 5, lines 58-63); b) the angular displacement of said shaft being responsive to fluid flows transmitted through a pair of lines (two hydraulic lines 20 as shown in Figure 9) coupled thereto; c) means for coupling said camera head (32) to said at least one positioner so that the attitude of said camera head is responsive to the angular displacement of said

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output shaft; d) a valve (flow control valve 252 is operated by electrical solenoids 252a and regulates fluid flow, See Figure 25 and Col. 9, lines 32-35) associated with said positioner, said valve being coupled to said pair of lines for controlling said fluid flows; e) a hydraulic unit (pump 250) for providing fluid under predetermined (float circuit translates the water resistance on boom 12d and preset pressure reducing valves, See Col. 9, lines 16-25) pressure to said valve; and f) means for selectively energizing said valve to determine said fluid flows (See Col. 9, lines 47-56).

Referring to claim 16, the Ackles reference discloses all subject matter as discussed with respect to same comment as with claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ackles U.S.

Patent 6,024,145 in view of Kraft U.S. Patent 4,648,782.

Referring to claim 2, the Ackles reference discloses wherein said at least one positioner further includes: a) a rotational actuator having an actuator shaft (See Col. 5, lines 49-50); b) the angular displacement of said actuator shaft (16) being directly responsive to said fluid flows; c) generally-cylindrical inner housing said inner housing having an internal cavity for

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accommodating said rotational actuator shaft as shown in Figure 8; the axis of symmetry of said generally-cylindrical inner housing being coincident with that of said actuator shaft. However, the Ackles reference does not explicitly show an inner housing including a rotatable cylindrical main shaft.

The Kraft reference discloses in Figures 4 and 28-30, a manipulator device particularly adapted for deep-sea, submersible use utilizes a human-like arm. The manipulator is hydraulically powered and a hydraulic manifold forms a body of the shoulder arrangement and is situated adjacent an azimuth control actuator. A TV camera can be mounted on the forearm of manipulator (not shown, See Col. 12, lines 9-10). As shown in Figures 25-26 and 28-30, a inner housing including a cylindrical main shaft (shaft 224) of reduced diameter at one end thereof; means for fixing said actuator shaft to said inner housing hereby rotation of said inner housing generates corresponding rotation of said main shaft. The Kraft reference is an evidence that one of ordinary skill in the art at the time to see more advantages for the positioner has a inner housing including a cylindrical main shaft, because it can significantly reduce the water resistance effect under the deep-sea and make the positional more strong and rotatable in any degree. For that reason, it would have been obvious to see the positioner including a rotatable cylindrical main shaft in the inner housing disclosed by Ackles.

Referring to claim 3, the Kraft reference discloses wherein said at least one positioner (manifold 6) further includes: a generally-cylindrical outer housing; said generally-cylindrical outer housing having a hollow interior for accommodating said inner housing; and means for rotatably coupling said inner housing to said outer housing as shown in Figures 25-26 and 28-30.

Referring to claim 4, the Kraft reference discloses wherein rotational actuator further includes: a substantially-hollow cylindrical body with an axially-elongated pedestal protruding inwardly and contacting a section of said actuator shaft; said section of said actuator shaft (224) having an axially-elongated radially-directed fin extending to the inner surface of said substantially-hollow cylindrical body whereby the interior of said cylindrical body comprises two chambers; a wall at one end of said rotational actuator having two apertures, each of said apertures being in communication with one of said chambers; and one of said lines being in communication with one of said apertures and the other line being in communication with the other of said apertures as shown in Figures 25-30.

Referring to claim 5, the Kraft reference discloses wherein said cylindrical neck is exteriorly-threaded as shown in Figure 28-30.

Referring to claim 6, the Kraft reference discloses a contacting annular seal (plate 236 and 237) between the interior of said outer housing and the exterior of said inner housing as shown in Figure 25.

Referring to claim 7, the Kraft reference discloses wherein said seal further includes: a pair of outwardly-directed wipers (231 and 232); and said wipers are axially aligned adjacent said outer surface of said inner housing as shown in Figures 25-26 and 28-30.

Referring to claim 8, the Kraft reference discloses including a pair of contacting, axially aligned annular bearing races between the interior of said outer housing and the exterior of said inner housing as shown in Figures 25-30.

Referring to claim 9, the Kraft reference discloses wherein each of said bearing races houses a tapered bearing as shown in Figures 25-30.

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Referring to claim 10, the Kraft reference discloses wherein said means for fixing said actuator shaft to said inner housing further comprises: a tapered collet (cylinders 223), said collet surrounding and being coaxial with said actuator shaft; means for fixing said collet to said inner housing; and means for fixing said tapered collet to said actuator shaft as shown in Figure 25-30.

Referring to claim 11, the Kraft reference discloses wherein said means for fixing said tapered collet to said actuator shaft comprises an inwardly-directed key extending from the interior of said collet to a groove within the exterior of said actuator shaft as shown in Figures 25-30.

Referring to claim 12, the Kraft reference discloses the interior of said main shaft position being substantially hollow; a substantially-cylindrical plug, said plug being received within said hollow interior of said main shaft; and means for sealing said plug to said main shaft as shown in Figures 28-30.

Referring to claim 13, the Kraft reference discloses for sealing comprises: an o-ring; and said o-ring being received within an annular groove within the outer surface of said plug as shown in Figure 35.

Referring to claim 14, the Kraft reference discloses a mounting structure (216, See Figure 28); said mounting structure including a substantially-planar plate having an internal aperture for accommodating said cylindrical main shaft (224); and an interiorly-threaded nut (bolts 238) for securing said plate to said main shaft whereby said mounting structure is rotatable with said main shaft.

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Referring to claim 15, the Kraft reference discloses two petitioners (235 and 240); an inclined bracket, the ends of said bracket being fixed to the outer housing of said positioners; and the mounting structure (204) of one of said positioners being fixed to said camera head and the mounting structure of the other positioned being fixed to a camera support structure as shown in Figure 28-30.

Conclusion

6. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231


Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

Lin Ye
October 6, 2003


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600